### CONNECT AND LEARN!

Be sure to utilize all the resources and tools available on our website at:
<a href="https://www.PricklyEds.com">www.PricklyEds.com</a>

- Connect on Social Media

   Facebook & Instagram
   @PricklyEdsCactusPatch
- Sign up to receive our free monthly educational newsletter
- Look for our monthly "Life in the Garden" columns in East Bay Life

Visit us during the growing season for wicked awesome plants. You will find us on Barneyville Road at the border of Barrington and Swansea. Opening for the season April 30,2025!





WELCOME! Tonight's session is part of the "Yards Alive" Living Landscapes Learning Series organized by Prickly Ed's Cactus Patch Native Plant Emporium.

Less Lawn - More Garden - More Life!



Where Kids Can Thrive with Cindy Larson Moura

WED. APR. 9 @ 6:30 PM

Collis Family Gallery

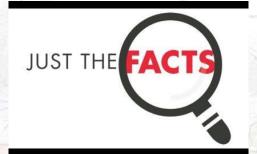








# The session will focus on four interconnected parts of the topic



Child
Development
Basics – What
Children Need

Nature Basics – What Nature Needs (and why this matters for children)

Current State of
Affairs for
Children and
Nature and the
Connection
Between the Two

How Our
Backyards Hold a
Cure for What's
Ailing Both Kids
and Nature

# Some guiding principles

Spaces that are good for kids can also be great for nature.

Spaces that are good for nature can also be great for kids.

Kids need more space to experience nature, and nature needs more space to thrive.

You can provide more space for both of these things right outside your door!

THINK OF ONE OF YOUR
VERY FAVORITE **OUTDOOR PLACES TO BE** AS A CHILD.
TAKE IN ALL OF THE DETAILS.

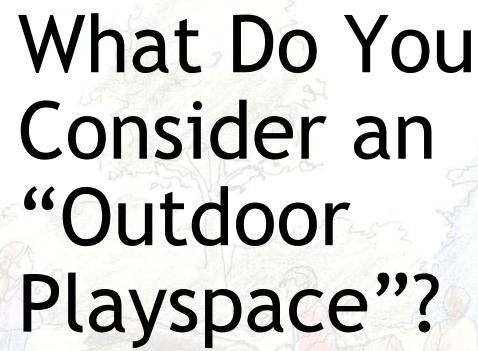
- What do you see?
- How did it make you feel?
- What did you like to do?



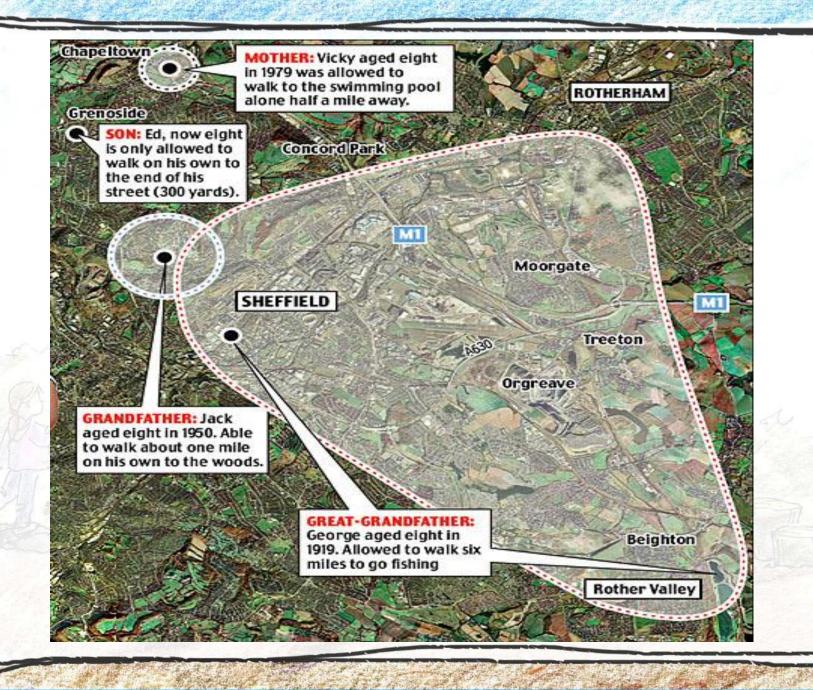
## Children learn primarily through engaging with and exploring their environment.



# **Human Brain Human Brain Human Brain** at Birth 6 years old 14 years old







# Today's children spend less time outdoors than any prior generation.

On average, children today:

- Spend less than 10 minutes a day engaging in unstructured outdoor play
- Spend up to 7 hours per day in front of some sort of electronic screen



# Unstructured Outdoor Play Is Essential to Healthy Development!

Unstructured play is when children engage in activities <u>of their own</u> <u>choosing</u>, without adult guidance or predetermined goals, allowing for spontaneous exploration and creativity.







#### **Unstructured Outdoor Play**

- Fosters creativity
- Spurs imagination
- Enhances problem-solving, decision-making, and social skills.
- Leads to better health overall
- Reduces stress
- Provides vital connections to nature

### Children who spend a lot of time outside, especially in nature:



- Are more resilient
- Sleep better
- Care more about nature
- Move more
- Develop more creativity
- Learn responsibility
- Are less stressed
- · Are more confident

### Conversely, too much screen time:

Impedes overall cognitive functioning

Impairs social:emotional development

Raises risk of obesity

Leads to problems with attention, anxiety, and

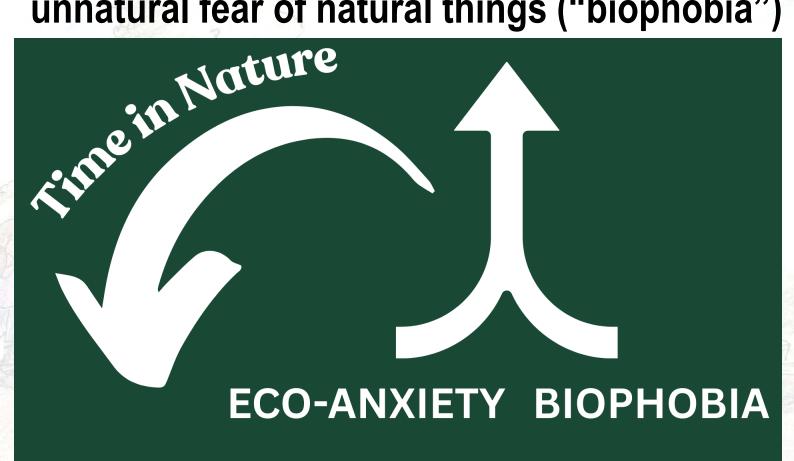
depression

Impacts sleep rhythms.





While time in nature has decreased, anxiety about the environment has increased as has an unnatural fear of natural things ("biophobia")



# There is remarkable agreement that this is a problem.

• 80% of adults surveyed said they do not believe that children spend enough time outdoors/in nature, 50% believed this was an extremely serious issue.



So, this all leads us to the main reasons that children do not spend more time outdoors despite the evidence of how important it is...

### 1. SCREENS

### 2. FEAR!

Hold on to this thought - we will come back to it (a lot!)

"Maybe it's because of our detachment from nature, the sensationalizing of rare events, or our innate suspicion of the natural world that once threatened us, but our ability to accurately assess risk in the U.S. has gone haywire." *Doug Tallamy* 

This disconnect between children and nature isn't only hurting children – it is hurting nature too!

"Passion is lifted from the earth itself by the muddy hands of the young; it travels along grass-stained sleeves to the heart. If we are going to save environmentalism and the environment, we must also save an endangered indicator species: the child in nature."

— Richard Louv, <u>Last Child in the Woods:</u>
<u>Saving Our Children from Nature-Deficit</u>
Disorder



**Photo by Sara Horvet** 

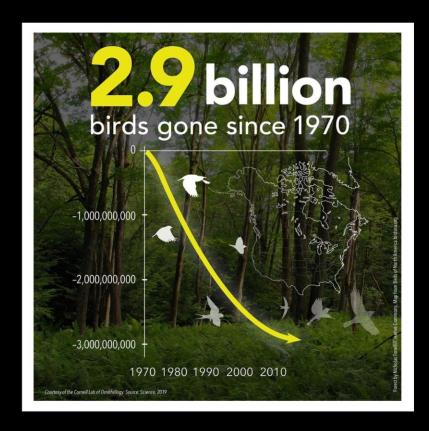
### The Pollinator Buzz

- Estimated 45% decline in all invertebrates
   (75% for flying insects) worldwide over the last 40 years
- Nearly 1/3 of all insects are endangered, even iconic pollinators like the Monarch Butterfly and American Bumblebee
- As much as \$577 billion of global food production requires pollinators
- 85% of all flowering plants on earth need help with pollination



Pollinators are an indicator species. Their presence or absence is linked to broader ecosystem health.



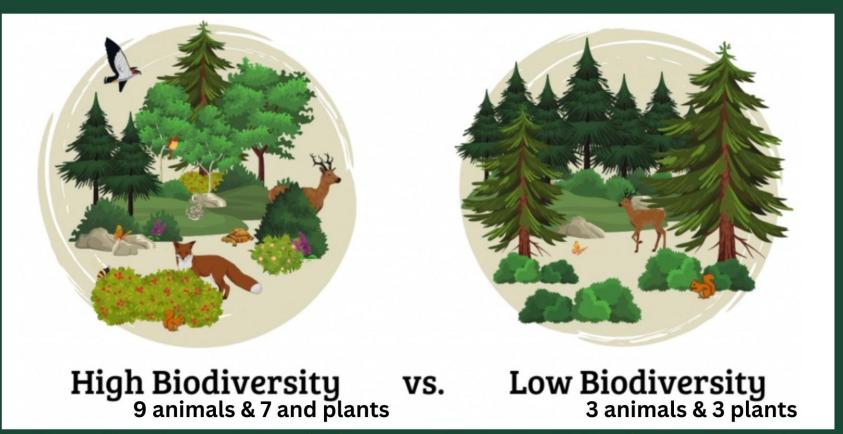


North America has lost nearly 3 billion birds since 1970. Here in Rhode Island a recent survey found equally grim results. More than 1/3 of birds are in serious decline.

A staggering loss that suggests the very fabric of North America's ecosystem is unraveling."

 Cornell Lab director John Fitzpatrick and study coauthor Peter Marra

### In the words of E.O. Wilson, "Biodiversity is our most valuable but least appreciated resource"



Biodiversity, the variety of life on earth, is declining faster than at any other time in human history. Biodiversity is essential to our wellbeing.

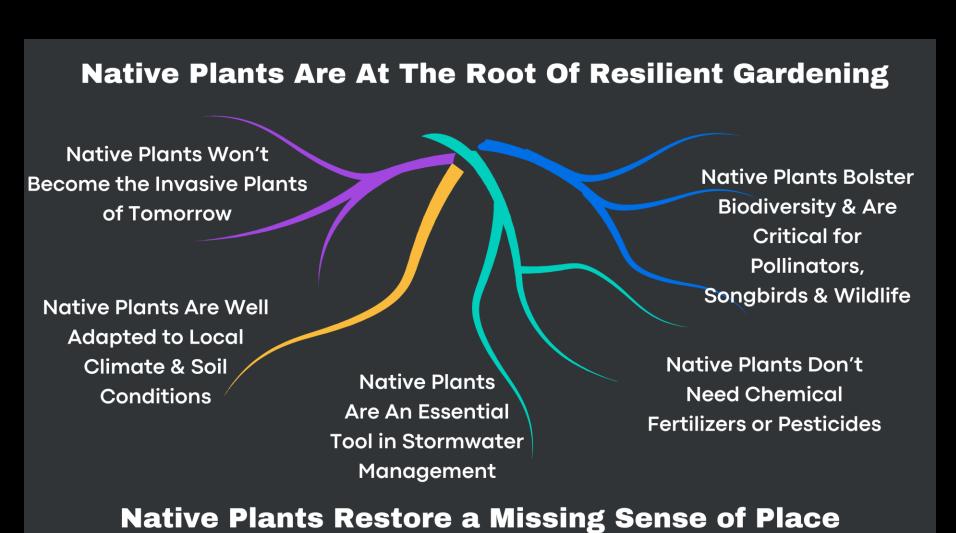
What does this have to do with the topic at hand?

- >93% of land in RI & MA is privately owned.
- By landscaping differently individuals have a remarkable opportunity to invite life back to their property.
- If many residents work together, connected corridors of habitat are formed and resiliency and biodiversity begin to rebound in communities.
- At the same time, these spaces can provide the very vibrant infrastructure needed to support unstructured play and connections to nature for children right at home!



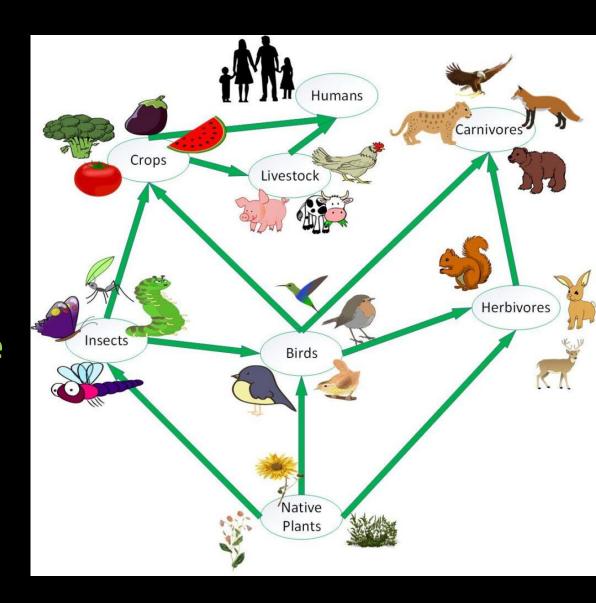


### Prime ecological benefits are achieved when the plants you use are native plants.



Native Plants form the foundation of vibrant food webs that support biodiversity.

It is not the presence of non-native plants that is the issue, it is the absence of native plants!



#### Douglas Tallamy

"Chances are you never thought of your garden--indeed, all of your property--as a wildlife preserve that presents the last chance we have for sustaining plants and animals that were once common throughout the U.S. But that is exactly the role our suburban landscapes are playing."



#### **BUILD IT AND THEY WILL COME**



AND – what if in the process of creating habitat at home you could also create the backdrop to begin creating room for unstructured outdoor play?



### Your family can work together to create a National Wildlife Federation Certified Habitat at Home!

#### BUILD A CERTIFIED HABITAT AT HOME! 💥 🤴









**Habitat Exploration at Home** 

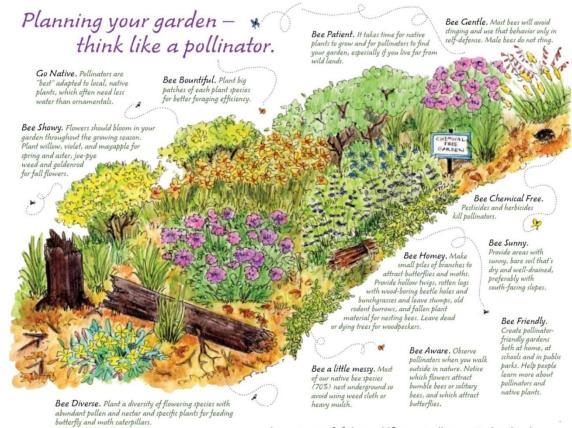
https://blogs.nwf.org/Native-Plant-Habitats/Create-and-Certify/At-Play/Kids-and-Families-Garden-for-Wildlife





Use the checklist like a scavenger hunt 🔎

Pollinator
Gardens and
Kids Are a
Great
Combination!



#### https://www.fs.fed.us/wildflowers/pollinators/index.shtml











### Pollinator Pathways Weave Habitat Back Together

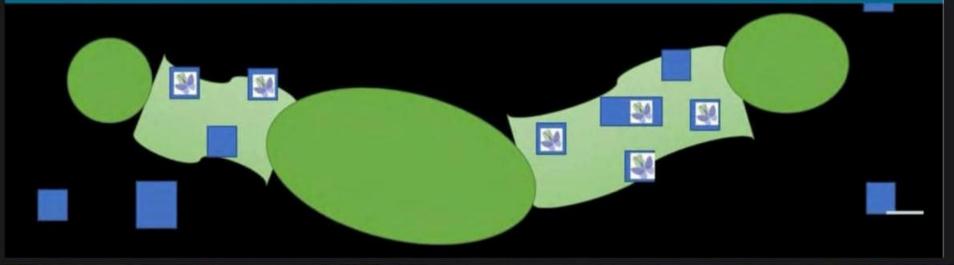
These Pathways Are Not Just Gardens For Pollinators - Pollinators Are An Indictor Species - When They Successfully Return, Other Life Can Follow Learn More www.Pollinator-Pathway.org



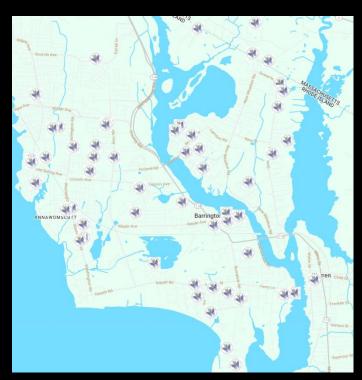
Scenario A: Fragmented Habitats



Scenario B: Connected Habitats



Look for signs of the Pathway all across the region!



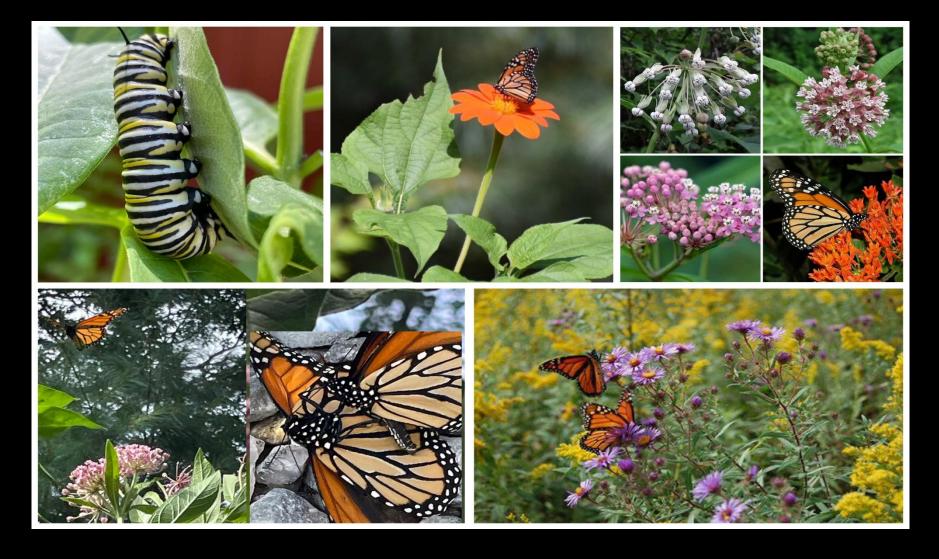








Gardening in partnership with nature gives purpose to time outside, is great for health, improves mental health, and offers lots of teaching moments with kids!



Here's another example of a teaching moment "host plant" at work! This is Antennaria – the common name is Pussytoes.





When they bloom, they send up a stalk about 1 foot tall with a flower.

This is a picture of Pussytoes flower.

Can you guess how it got its name?



The flower on the pussytoes plant looks a lot like a cat paw! Kids love this plant! The foliage is also funny and the plant is child sized.

This is an American Lady Butterfly laying eggs on a Pussytoes plant.





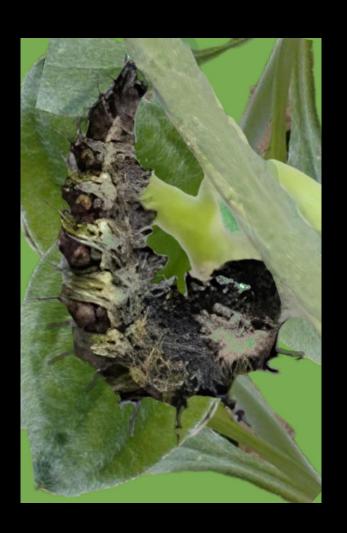
Each egg is very tiny – only the size of a pencil tip

As the caterpillar gets bigger, it leaves its original home and builds a bigger shelter. It pulls several leaves together to create a bigger house.





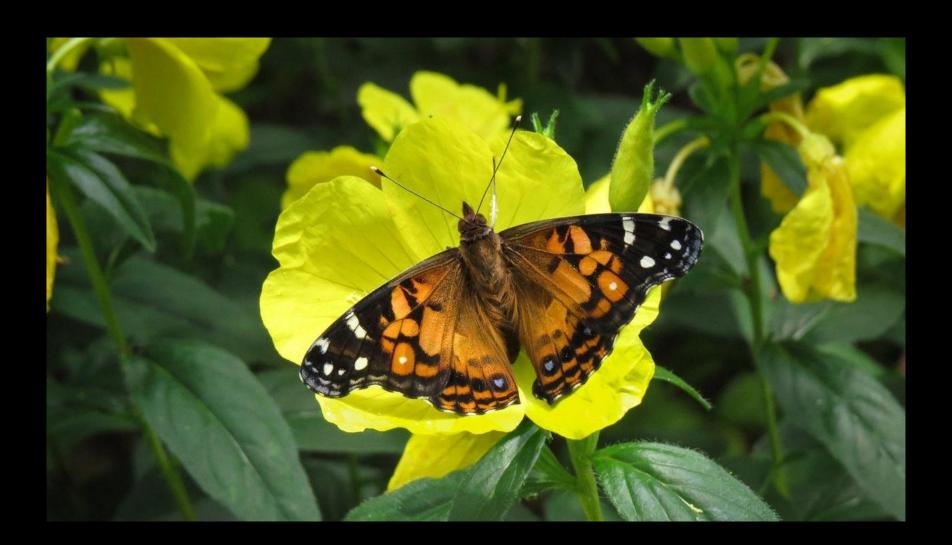
All the caterpillar houses make a mess of the leaves. But it doesn't hurt the plants.



When the caterpillar is ready to change into a butterfly, they fasten themselves to a branch and hang upside down. Then an amazing change occurs.



The caterpillar turns into a chrysalis which hangs from a twig or branch for ten days to two weeks and then finally... the caterpillar emerges as a butterfly.



The same process can be observed on Anaphalis margaritacea (Pearly Everlasting) another New England Native Plant. These are actual plants on our sales shelf last June!



#### Just a few examples of fun and child friendly plants to include your buzzing Pollinator Garden!

#### Fun plants for pollinators

Mexican Sunflower Spotted Bee Balm

Blueberry Bushes!!

















Coral honeysuckle

Cardinal Flower

Borage

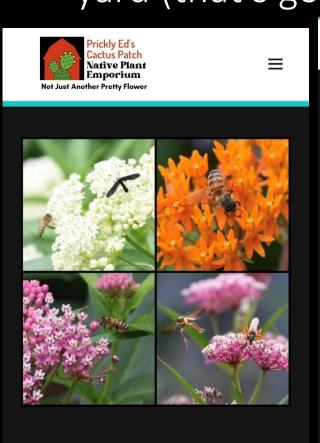
## Nature friendly yards encourage bird watching right at home!

**Backyard birdwatching** offers children numerous benefits, fostering a love for nature, enhancing observational skills, and promoting mental and physical well-being. It can also teach patience, responsibility, and appreciation for the natural world.

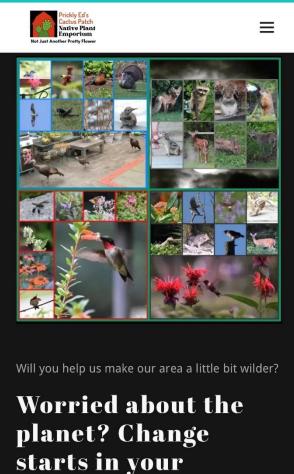




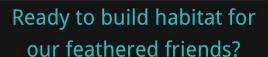
Reminder - be sure to use our website www.PricklyEds.com to help you plan your pollinator, wildlife, bird-friendly, nature centered yard (that's good for kids too!)



Pollinators, What's all the Buzz About?



backyard...



Use our checklist as your guide - download it \



- caterpillars birds need like Oak, Cherry, Plun
- Strawberry, and Shrubby St. John's? Nutritious berry producers like Dogwood Viburnum, Winterberry, Elderberry, Black
- Gum, and Chokeherry? Plants with plentiful seed heads like. Clethra Nodding Onion, and Native Grasses?

#### Is your yard maintained with nature in mind? Do you:

- Minimize areas of turf-grass lawn to make way
- for beneficial bird-friendly plantings?
- Keep fallen leaves on the property? Leave spent plant stems standing?
- Forgo pesticides (including herbicides
- fungicides & lawn ""weed & feed" products )?
- Safely leave dead trees (snags) & fallen logs: Use branches to create brush piles and dead
- gas powered mowers and leaf blowers!)? Avoid tree trimming during nesting season?

#### trees) and using timers & motion sensors? Is your space "bird-centric"? Do you:

landscapes made up of at least 70% native

for perching and plant in groupings to offer

Minimize light pollution by using amber bulbs. focusing light downward (never shine up into

Plant abundantly to mimic nature

cover and safe places for nesting?

"2/3 for the hirds"!)

plants best support birds? (Think about it as

cleaned frequently?

- Provide high quality bird seed at times of year when resources are limited and clean
- Protect birds from pets by keeping cats

feeders frequently?

- Use window decals to prevent bird strikes? Avoid the use of any outdoor decorations
- that could cause entanglement? Leave some wild corners to offer natural nesting and foraging opportunities?

# Isn't "Inviting Nature Home" too Scary or Dangerous?

What about ticks, mosquitos, ants, creepy crawly things, bird poop, snakes, coyotes, squirrel bites, bee stings, firefly burns, poisonous plants, lions and tigers and bears on my ...

#### Best way to protect lawn from playground

**DIY Question** 

Just installed a new playground for my kids in the backyard. What's the best way to protect the grass or minimize damage (if possible) from the structure? My grass is St Augustine located in North Texas

"...but our ability to accurately assess risk in the U.S. has gone haywire..."



Over 200,000 children go to emergency rooms each year for playground equipment falls – the main cause of injury is inadequate surfacing. Grass is not a safety surface.

### Americans love perfect lawns but they are NOT "green" or child, pet, or neighborhood friendly! What is the real cost of lawns?

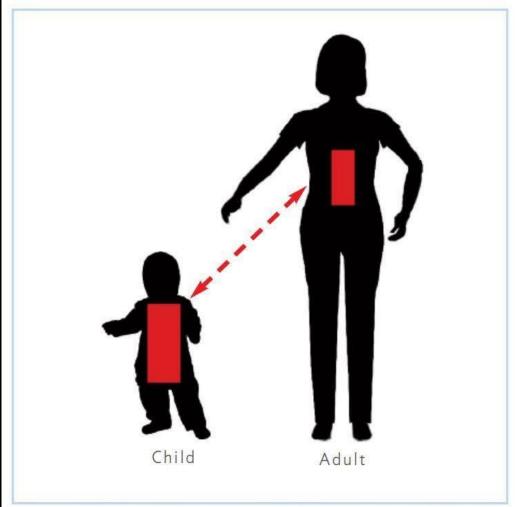
- \$40 billion a year to maintain lawns
- 9 Billion Gallons of Water a Day
- 10x as many pesticides as commercial agriculture (80 million pounds a year)
- Stormwater runoff from treatments smother waterways & poison aquatic life
- 242 tons of pollutants generated by maintenance equipment
- 800 million gallons of gasoline each year to maintain lawns - as many as 17 million of which are spilled





- Most conventional lawn care products contain "Agent Orange"
- Of 30 commonly used ingredients, 19 are linked to cancer, 13 to birth defects, 21 to reproductive disorders, 15 to brain damage
- Pesticides shown to increase risks of childhood cancer (especially leukemia and neuroblastoma) and contribute to rise of autism and ADHD (children are uniquely sensitive to toxins in the environment it is recommended to keep them off treated lawns for weeks after application)
- Lawn chemicals are routinely found at high levels in the urine of dogs - there are immediate ingestion/toxicity concerns and long-term increase in risk of cancers
- Lawn treatments are HIGHLY toxic to bees and other pollinators and 70 million wild birds are killed annually through ingestion of these toxic products

American's use
10x the amount
of pesticides in
home
landscapes as
are used in
commercial
agriculture!



If a pesticide is present in air, food or water, a greater amount will be taken in by a child in proportion to their body size or weight than by an adult.

Are the Creepy, Crawly Things Really Creepy? Let's Play a Game...

How Would You Feel About Finding This Bug In Your Yard?



## How About This One?







Deposite eggs on leaves



1. Eggs stage



4. Adult stage

#### LIFE CYCLE OF LADY BUG



3. Pupa stage



2. Lapvae stage







Okay – just one more!

DANGER????



#### But...What About Bee Stings?!

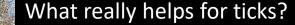


#### Ticks and mosquitos – know the facts.

According to the science (not the marketing), we quote "Before deciding to spray your yard, know the facts. Spraying can harm you, your kids, pets and your neighbors. The chemicals can also harm birds and insects that help eat mosquitos and pollinate your yard." Real experts agree, mosquito treatments, including the alleged "all natural" variety can harm you and your environment, while not actually reducing mosquito populations.

What really helps for mosquitos?

- Remove or regularly change out any sources of standing water
- Use mosquito dunks
- Wear long sleeves and use non-toxic personal repellents
- Attract mosquito eating friends (hummingbirds and dragonflies eat hundreds of mosquitoes every day!)



- Create wide pathways to move through your space
- Wear light colored clothing and close toe shoes - tuck pants into socks and use personal repellents
- Children with indoor-outdoor pets are 3x as likely to contract Lyme disease -take precautions
- Do daily tick checks ticks need to be attached > 24 hours to transmit Lyme disease – this is a serious disease – BUT – less than 3% of bites result in disease



# Finally, on the Topic of Poisonous Plants...

Your child is not a goat! Do they really go around chewing on plants?



Did you know? Many of the most commonly used landscape plants in our area are on "poisonous for children" plant lists, including:

- Daffodils
- Hydrangeas
- Azaleas
- Lily of the Valley
- English Ivy
- Boxwood
- Burning Bush
- Privet

### Not So Fun Facts – Every Year:

- 3.5 million children injured annually in organized sports 20 die each year from football injuries
- 200,000 children each year to go the ER for a playground injury
- 160,000 children are injured each year in car accidents 3 children die each day in vehicle related accidents
- There are around 200 fatalities from animal encounters each year – the majority are domestic dogs and farm animals
- 70 children die each year from hotdogs
- There are 75,000 alcohol related deaths each year
- Lightening kills 50 people each year, and another
- 300 people are killed by toasters

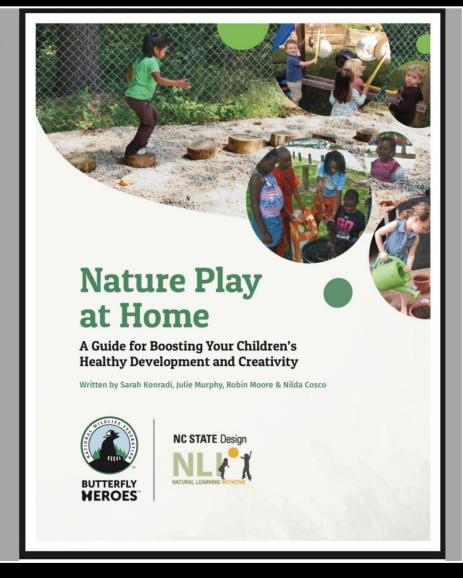
So let's not let fear of danger get in the way of creating the kinds of spaces kids need to thrive – and the planet needs to survive!



Your kids can experience beneficial outdoor time in nature right in your own backyard!

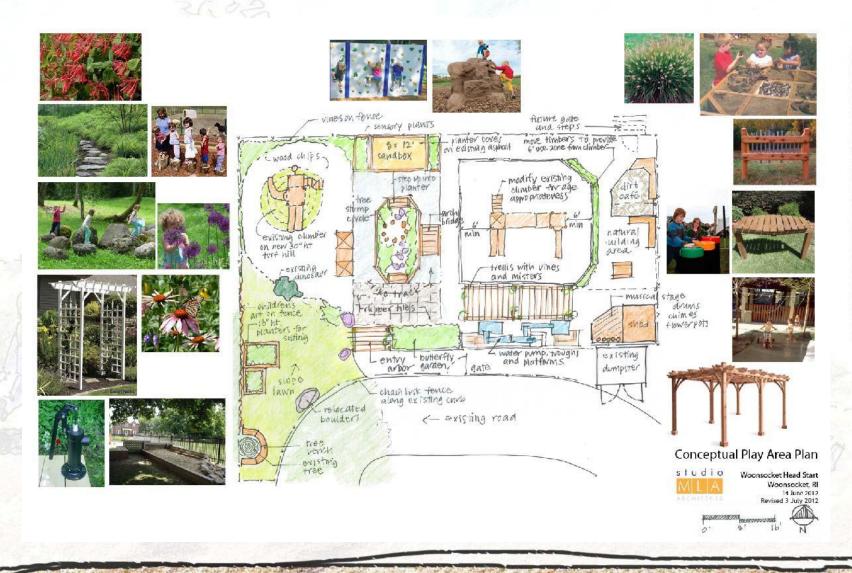
https://blogs.nwf.org/-/media/PDFs/Butterfly-Heroes/BH-Nature-Guide.pdf





Natural settings that previous generations took for granted now must be deliberately created. In doing so here are some essential guidelines to keep in mind.

#### Make a Plan!

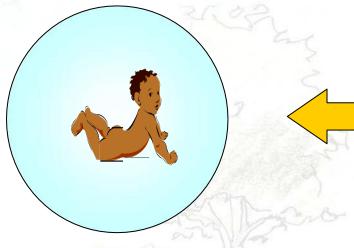


## Be sure to ask the right questions as you think about planning your outdoor space!

Instead of asking "what kind of equipment should I buy", ask things like:

- What kind of life do we want to support and inspire in this space?
- What kind of childhood does the space allow for?
- How will this space help my child learn?
- How does this space help my child to reconnect to nature?
- How does this space support my child's health and wellbeing?
  - How does this space help create a better tomorrow?
- How does this space connect with my broader community?

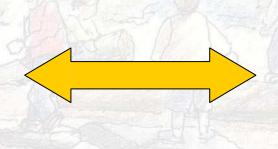






#### **Determine Your Tolerance of Exploration and Mess**







#### Conduct a "Site Assessment"

#### Look For - Ask:

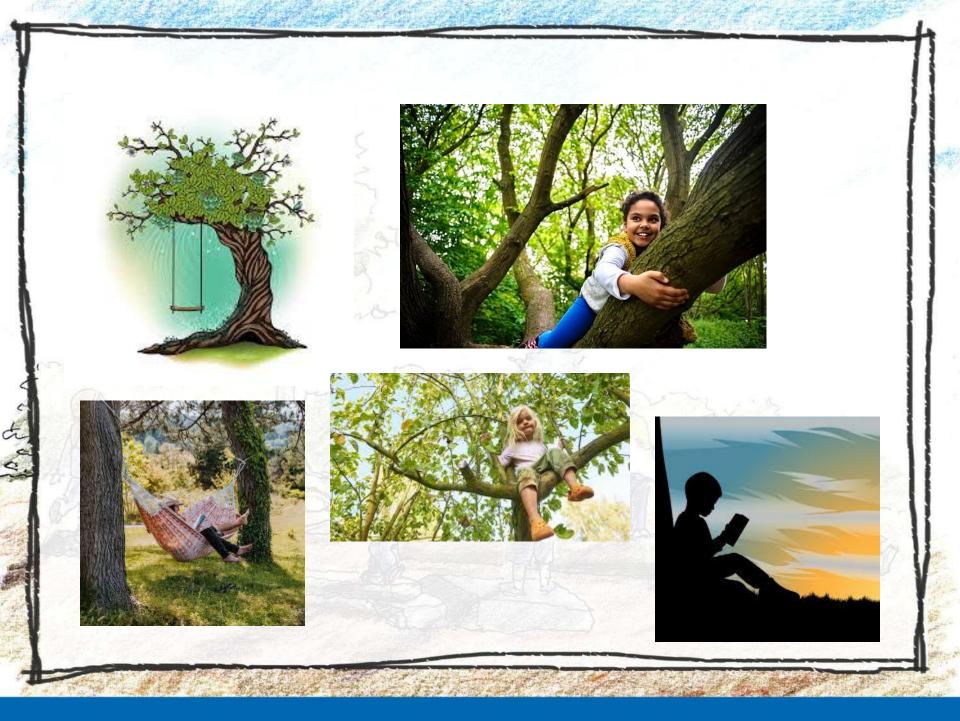
- How do we enter the space?
- How are the boundaries defined?
- What is the light?
- What is the soil like?
- What existing vegetation should stay? What should go? What should be added and where?
- Where are the fixed features? How can we use them or how do we need to avoid them?
- What are the views? How do we use them in the design?
- Are there true hazards to mitigate?
- Where does rain go when it falls?
- What windows overlook the space? How can I best <u>supervise without</u> <u>surveilling?</u>

Shade is very important for children's play. If your yard doesn't have enough shade right now consider planting trees. Trees are cool!



Tulip Poplar Tree is just one example of a very fast growing native tree that kids love. It grows very, very tall! Right now, the tree is just a little bit taller than James but soon it will grow taller than the roof! It has beautiful flowers in the springtime that pollinators love to visit.

Shade trees are an investment in the future. Select native varieties well-adapted to our area including Oak, Maple, Birch, and Tupelo.



### Design for children – not for adults!



Excerpt Reprinted from the Vancouver Sun

Author: Frances Hill, Mary

Publication Date: 14 Dec 2010

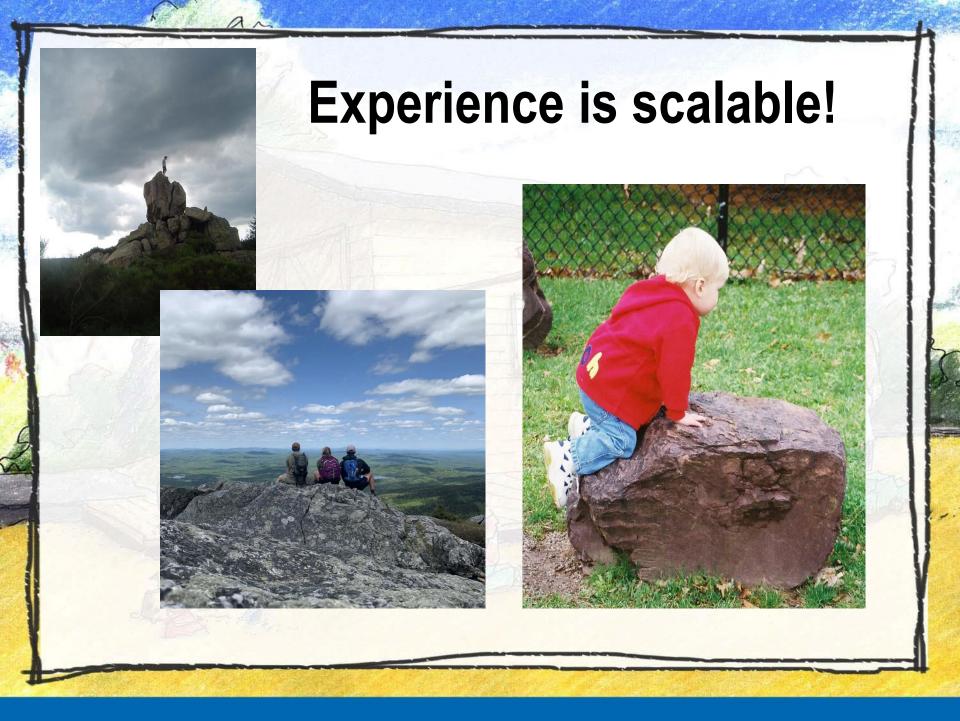
That play spaces should be designed for children, not adults, might seem obvious. But a five-year study tracking the habits of toddlers and preschoolers in playgrounds across Vancouver suggests an obsession with safety has forced kids into safe but sterile and uninspiring outdoor spaces that might satisfy adult anxieties and needs, but shortchange children's development.

### Instead of traditional swings and slides, the kids want places where they can hide, play with dirt and be creative.

Susan Herrington, a professor in the University of B.C.'s School of Architecture and Landscape Architecture, who led the study, said modern, trendy-looking playspaces may be safe and the equipment is sturdy, but they leave nothing for childish imaginations. Between 2003 and 2008, she and her researchers studied 16 outdoor play centres, videotaping children aged two to five. They found that 87 per cent of the time the conventional equipment - monkey bars, swings, slides and climbing structures - remained empty. Even when the children played on or around the equipment, they used it for its intended purpose, like going down the slide, only three per cent of the time, according to the study.



Some key principles to keep in mind when planning your outdoor play spaces.



# Consider your space from a child's point of view (literally)



## **Build Healthy Places for Children to Be**















Gross motor skills are physical activities and large movements that promote the use and development of the large muscle groups of a body. Structures take a lot of space and tend to focus on just a couple of skills. Natural spaces with varied, open-ended activities can help build a variety of gross motor skills.

- Balancing
- Climbing
- Lifting
- Pulling and Pushing
- Stretching
- Bending
- Kicking and Tossing
- Steering and pedaling
- Hanging by arms
- Running and skipping
- Swinging
- Jumping
- Hopping
- Hula hooping
- Tossing (aiming)
- Throwing and Catching
- Kicking



### **Create for ALL of the senses!**

## THE FIVE SENSES



SIGHT: I see with my eyes.





HEARING: I hear with my ears.





TASTE: I taste with my tongue.





SMELL: I smell with my nose.





TOUCH: I touch with my hand.



To enhance children's visual experience, choose plants with vibrant colors, varied textures, and showy flowers or foliage. When planning your space select a variety of plants that will bloom from spring through fall. This is also what is best for pollinators.

### **Native Plants for Seeing**

Rose Mallow

Turtlehead Ironweed Cutleaf Coneflower

Blue-eyed Grass











Fringe Tree



Red Twig Dogwood Beautyberry





## Visual Surprises











At the Hershey Children's Garden in the Cleveland Botanical Garden, this whimsical arch and gate tell kids that this is a space just for them.



This rustic arbor draws children down the path and into an outdoor classroom.

# Entries that visually beckon!





A welcoming garden entry with a hand-hewn metal gate.



## Enclosures that offer enhanced nature benefits and sensory experiences!





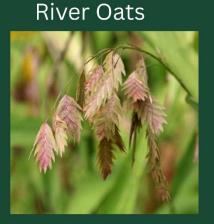


Select some plants that will add interesting and soothing sounds to a space. Grasses are especially effective for this. Many native plants create fun seed pods that can be shaken and popped.

### **Native Plants for Hearing**

Rustling Grass









Prairie Dropseed



Columbine



Switchgrass



Redbud



An important benefit children derive from nature comes from soothing and repetitive sounds like bird calls and spring peepers. Equipment drones out these quieter, nature-centered sounds. Excessive noise is also <u>very bad</u> for children and can lead to early stress and anxiety. Cumulative exposure leads to early hearing loss, raises blood pressure even in children, impacts learning, and disrupts sleep.





## Add features that bring whimsical sounds to a space.









When you garden with native plants there is no need for chemical fertilizers that obscure natural plant fragrances. Many pollinators are very attracted to strongly scented plants!





You can enhance several sensory experiences (sight, scent, and even taste) with the addition of an herb spiral garden! This is a great DIY project to build with kids.

Tactile learning is extremely important for children, in fact it is central to the way children come to understand the world in early years. Provide opportunities for children to interact with plants, interesting tree barks are an especially effective way to connect touch to the garden.

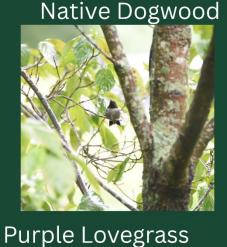
### **Native Plants for Touching**

Bark

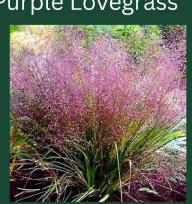


River Birch









**Foliage** 

Pathways are an essential component of nature-based play spaces. They delineate one space from another, draw children through the space, allow children to move safely through the space and when planned creatively provide a number of tactile experiences.





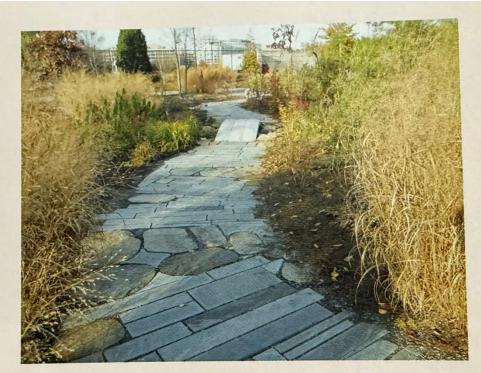


River rock and pavers set in a concrete path designed for barefoot walking create a unique tactile experience.



An arrangement of irregular pavers incorporates tree roots into the path, protecting the tree, celebrating and exposing its root system, and making the path more interesting.

Uneven pavers and the use of varied materials creates a more interesting sensory experience. Walking on uneven surfaces also helps to develop a better sense of balance, critical to reducing falls later in life.



Soft grasses, meandering curves and undulations, and a mix of pavers engage multiple senses.

# Places to Grow – A great complement to your nature centered space is a vegetable garden that children can help plant, tend and eat!

Did you know, 93% of children do not eat enough vegetables? Children are more than twice as likely to eat five portions of veggies a day when they are homegrown and far more likely to eat a wide variety.









## All great nature-centered playspaces are well stocked with "Loose Parts"



This is not a stick...

It's a wand
It's a guitar
It's a shovel
It's a horse
It's a baton
It's a telescope
It's a sword
It's a microphone
It's a ski pole
It's a spoon
It's a fishing pole
It's a treasure finder
It's a paddle.

and anything else a child can imagine!





### A FEW examples of loose parts

#### **MANUFACTURED**

- Boards and lumber
- Crates, buckets, bins
- Boxes (giant and small)
- Old clothing, fabric
- Heavy items that need two to lift
- Pots, pans and utensils
- Wagons, bikes, wheelbarrels
- Balls, jump ropes, hula hoops

#### **NATURAL**

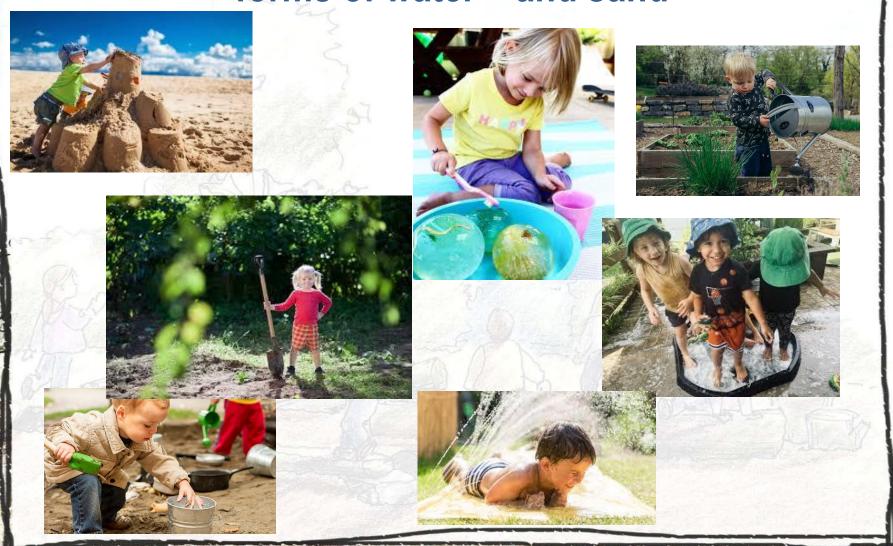
- Driftwood and shells
- Rocks
- Tree "cookies" (slices of logs)
- Gnarly logs and burls
- Leaves
- Old Christmas Trees
- Plants and flowers
- Straw bales



Think of it as the cat and box syndrome. You can buy them all the toys you want, but they go for the empty box they came in every time!



## All great nature-centered playspaces contain forms of water – and sand



# And what happens when you put sand and water together?!





## All great nature-centered playspaces give children the freedom to create their own play experiences!





## When you leave organic materials onsite it provides for nature – and it provides amazing experiences for kids!













And that brings us back to where we started. What's good for nature is good for kids! Create outdoor spaces that nurture both and secure a better future for your children.

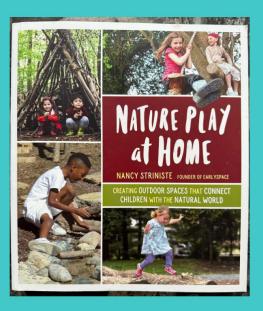


### RESOURCES

Be sure to visit and bookmark the "Landscaping for Kids" Page of our website <a href="www.PricklyEds.com">www.PricklyEds.com</a> where you will find a growing group of resources and information to help you plan your space. A PDF of the slides shown this evening is also available on that page for your convenience.



OME ABOUT US CONTACT INFO, HOURS, ETC. PLANT SHOPPING DETAILS MORE V A



#### Gardening With Kids -Gardening for Kids

The experiences that most of us naturally enjoyed as children now need to be intentionally recreated for today's youngest generation. When we invite nature home, we create spaces that are great for children's health, development, and well-being. And these spaces are just what nature needs too! Explore resources below.

EXPLORE MORE AT THE NATIONAL WILDLIFE FEDERATION'S
NATURE PLAY SPACES SITE